

USGS Presentation

Summary of Key Points

Summary of Key Points - 1

- USGS is an independent fact-finding agency
- Compiled and synthesized a significant amount of historic, recent and newly collected data
- Developed an updated assessment of the hydrogeology and geochemistry of the SRP
- Developing an integrated surface water-groundwater flow model for estimating the water budget and to assess alternative management scenarios

Summary of Key Points - 2

- Developed 3-dimensional Geologic Model
 - Identified two deep sub-basins (Windsor and Cotati sub-basins) separated by Trenton Ridge
 - Clay-rich Petaluma Formation present in large area beneath surface
- Faults
 - Sebastopol – partial barrier to groundwater flow (varies with depth)
 - Rodgers Creek – horizontal and vertical barrier to groundwater flow

Summary of Key Points - 3

- Overall groundwater quality is good
 - Localized groundwater quality issues involving iron, manganese, arsenic, nitrate
 - Increasing levels of specific conductance and chloride in southern area of the basin
- Overall basin groundwater levels appear stable
 - Groundwater generally flows east to west
 - Historical/periodic areas of declining groundwater levels in localized areas
 - Highlands to east and water courses are a major source of basin recharge

Summary of Key Points - 4

- Groundwater model simulations over a 35 year period (1974 – 2010)
 - Overall groundwater pumping more than doubled over 35-year period
 - Groundwater pumping appears to influence stream baseflow
 - Changes in groundwater storage vary from year to year based on climactic conditions (recharge) and groundwater pumping.

Summary of Key Points - 5

- Next Steps
 - Publication of Report on Hydrology, Hydrogeology and Water Quality
 - Final calibration of model
 - Select scenarios for model simulations – BAP input
 - Publish report on model and make model files available to public